

IX. RECOMMENDATIONS

The Department offers the following recommendations on the petitioned action, on management activities, and on other actions to aid in the recovery of coho salmon. Although some of these recommendations are within the authority of the Commission or Department to implement, others will depend on actions by other agencies or private parties.

Petitioned Action

The Salmon and Steelhead Recovery Coalition petitioned the Commission to list the coho salmon north of San Francisco as an Endangered Species under CESA. The Commission is guided by the guidelines promulgated under this Act in determining whether a species may be listed as endangered or threatened. Section 670.1(i) of Title 14 of the California Code of Regulations sets forth the listing criteria. Under this section, the Commission may list a species if it finds that its continued existence is in serious danger, or is threatened by any of the following factors:

- Present or threatened modification or destruction of its habitat;
- overexploitation;
- predation;
- competition;
- disease; or
- other natural occurrences or human-related activities.

Section 2062 of the FGC defines an endangered species as “....a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes....”. A threatened species is defined as “.....a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required [by CESA]” (FGC Section 2067).

Based on this status review of the available scientific information, the Department concludes that coho salmon in the California portion of the Southern Oregon/Northern California Coast coho ESU (historical coho salmon streams from Punta Gorda north to the Oregon border), (Figure 3) although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA. The Department concludes that the petitioned action to list this species as an endangered species is not warranted, but listing as a threatened species is warranted. The Department recommends that the Commission publish notice of its intent to amend Section 670.5 of California Code of Regulations, Title 14 to add coho salmon (*Oncorhynchus kisutch*) north of Punta Gorda to the list of threatened species.

Based on this status review of the available scientific information, the Department concludes that coho salmon in the CCC Coho ESU (historical coho salmon streams tributary to San Francisco Bay north to Punta Gorda) (Figure 3) is in serious danger of becoming extinct throughout all, or a significant portion of, its range. The Department concludes that the

petitioned action to list this species as an endangered species is warranted. The Department recommends that the Commission publish notice of its intent to amend Section 670.5 of California Code of Regulations, Title 14 to add coho salmon (*Oncorhynchus kisutch*) north of and including San Francisco Bay to Punta Gorda to the list of endangered species.

Future Management

Programmatic

The Department should explore the possibility of legislation to create a CESA consultation section for state agencies to replace FGC section 2090, which has expired.

Disease Control

The reduction of stress factors, such as, but not limited to, warm water temperatures, reduced stream flows, lack of cover, lack of stream diversity, silt load, polluted water, and impeded passage, can significantly decrease the incidence of disease. The best form of disease control for wild populations is to avoid its introduction into a watershed. Minimizing handling of adults at weirs and establishing water temperature criteria for operation of research and monitoring facilities should be implemented. Fish that are rescued from a desiccating stream are stressed by one or more factors, which create a favorable environment for disease. When released into new habitat, these fish can spread diseases to the existing population in the stream. This needs to be considered when fish rescues are authorized by the Department.

Hatchery Management

Hatchery management should:

- C maintain use of native, within-basin broodstock collected in appropriate numbers from throughout the natural run;
- C maintain prohibitions against outplanting of coho hatchery stock in anadromous waters;
- C continue to develop HGMPs that incorporate conservation measures for all coho hatcheries in California; and
- C continue to evaluate the recommendations in the *Final Report on Anadromous Salmonid Fish Hatcheries in California* (CDFG/NMFS 2001) and adopt those recommendations deemed necessary and appropriate for the hatcheries within the range of coho salmon.

Forestry Activities

The Department should cooperate with the BOF to implement the “Joint Policy Statement on Pacific Salmon and Anadromous Trout” adopted by the BOF and the Commission. A combination of current timber harvest plan review in conjunction with stream assessment and broader watershed analyses would result in an effective approach to both understanding and

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addressing the relationship of forestry practices and coho salmon ecology, and potential regional or local differences in these relationships.

The Department should:

- C provide temperature regime threshold guidelines, derived from existing literature and field studies, to CDF and the BOF for inland waters that continue to support coho salmon;
- C encourage participation by all other agencies in the development of habitat conservation plans and all other landscape-scale planning efforts;
- C support and participate in the development of watershed specific efforts to effectively maintain and restore coho salmon habitat by focusing on the combination of factors currently limiting the distribution and abundance of coho salmon.

General Land-use Activities

The Department should coordinate with appropriate state and federal agencies, land owners, and other interested parties to protect or enhance habitat conditions or functions. This will include coordination on development of:

- C stream temperature regimes for all life-stages, especially eggs and juveniles;
- C future recruitment of LWD, stream-side vegetation, and canopy cover;
- C buffers for streams from upslope inputs of fine and coarse sediment;
- C attenuation of existing sediment loads; and
- C allowing for stream meandering and creation and cycling of streambank, side-channel, pool, and riffle habitat.

The Department should coordinate with state and local agencies and land owners on road management issues that have the potential to affect coho salmon habitat, including the consultation on permanent and temporary roads and watercourse crossings with the goal that they will be properly constructed, maintained, reconstructed, or abandoned.

Screens, Diversions, and Fish Passage

Through the Fish Passage Forum, the Department should continue to coordinate with state, local, and federal agencies and other interested parties to identify, prioritize, and remediate coho salmon passage barriers. The Department should work within the Streambed Alteration Agreement process to improve and replace existing diversions to benefit coho salmon.

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Instream Flow

Flow studies to determine instream flow needs for coho salmon on the Shasta and Scott rivers are needed. For the Klamath River, the Department supports the Hardy Phase II flows to develop a flow regime in the Klamath River over five water-year types that would adequately consider California's anadromous fishery resources and allow for recovery of California coho populations.

Gravel Extraction

The Department requires gravel removal operations to be reviewed under Section 1600 et seq. of the Fish and Game Code. To deal with instream mining with statewide consistency and greater scientific rigor, the Department is currently developing guidelines to ensure compliance with this Fish and Game Code section. The NMFS Southwestern Region Policy on Instream Gravel Extraction should be used as advisory, non-regulatory guidance until the Department's draft instream mining guidelines have been finalized.

Suction Dredging

The Department requires a permit to use any vacuum or suction dredge equipment in any river. Strict adherence to the regulations and requirements pursuant to Section 5653 of the Fish and Game Code is necessary to prevent impacts to salmonids and their habitat. The Department should continue to refine and adjust the existing regulations as necessary.

Commercial and Recreational Fishing

California ocean and inland non-Indian fisheries are closed by federal and state regulations to the directed harvest of coho salmon. However, incidental mortality due to non-compliance and hook-and-release still occurs. Dockside education and enforcement in the recreational fishery has been increased in recent years, and should be continued. The moratorium on commercial and recreational harvest should also be continued.

Research and Monitoring

Coho salmon presence surveys should be continued for at least two additional years to obtain additional information on coho distribution, population fragmentation, and temporal extinctions for purposes of expanding information available for managing the species. In addition, coho salmon abundance measurements should be refined to improve the assessment of populations and the effects of habitat restoration activities on these populations.

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